Yazhou Li

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Education

Queen Mary University of London, Center for Digital Music **2021 - 2026**
Ph.D., Artificial Intelligence and Music

Beihang University, SHENYUAN Honors College **2017 - 2021**
B.S., Computer Science and Technology, GPA: 3.74/4

Research Interests

Sound field Control, Loudspeaker Array, Room acoustics, Sound Field Estimation, Personal Sound Zone, Deep Learning, Audio Signal Processing

Research Experience

PhD Researcher, Queen Mary University of London **2021/9 - Present**
Center for Digital Music (C4DM) | Advisors: Joshua Reiss and Lin Wang

- Designed and trained neural networks for spatial acoustic modelling, including SIREN and physics-informed architectures for BRIR interpolation from sparse measurements.
- Investigated frequency-dependent modelling strategies and evaluated neural predictions using reconstruction metrics and downstream personal sound zone (PSZ) performance.
- Developed neural-network-based filter design methods for sound field control, benchmarking robustness against conventional optimisation methods.

Research Intern, National Institute of Informatics **2026/3 - 2026/6**
Advisor: Shoichi Koyama

- Developed an HRTF-conditioned neural framework to personalize binaural room impulse responses (BRIRs) for unseen listeners from individual HRTFs.
- Designed a sub-band SIREN architecture for spatial BRIR interpolation and evaluated its impact on crosstalk cancellation.

Research Assistant, Peking University **2020/11 - 2021/6**
Speech and Hearing Research Center (SHRC) | Advisor: Tianshu Qu

- Developed and trained DNNs for HRTF personalisation, mapping PCA-based 3D head-mesh features to SPCA-based HRTF representations.
- Processed three datasets involving over 400 subjects and evaluated the models against anthropometric feature baselines, achieving improved HRTF individualisation performance.

Research Assistant, Lehigh University **2020/1 - 2020/6**
P.C. Rossin College of Engineering and Applied Science | Advisor: Yahong Rosa Zheng

- Profiled three autonomous-driving computer vision algorithms with and without GPU acceleration on an NVIDIA Jetson TX2 across five power modes using two profiling tools.
- Won 2nd Place in F1tenth Grand Prix (IFAC2020).

Work Experience

iOS Audio Developer (Part-time), PASACO Studio **2024/2 - 2024/11**
iOS Developer for innovative audio-interactive gaming application

- Architected real-time audio engine combining AVAudioEngine and low-level C++ buffers.
- Collaborated with UI designers on GUI development and built a modular SwiftUI framework with custom sprite animations.
- Won Most Fun Award (Muse Hub Hackathon 2024) and Best Creative Hack Award (Timbre Tools Hackathon 2024).

Publication List

Yazhou Li, Shoichi Koyama, Lin Wang, and Joshua Reiss. "Binaural Room Impulse Responses Personalization From Head-related Transfer Function Conditioning." Under Submission.

Yazhou Li, Lin Wang, and Joshua Reiss. "Neural Regularization for Personal Sound Zones." In *the 6th AES International Conference on Audio for Virtual and Augmented Reality and Immersive Games*, Paris, 2026.

Yazhou Li, Lin Wang, and Joshua Reiss. "Sub-band Neural Interpolation of Binaural Room Impulse Responses for Personal Sound Zone Control." In *the 6th AES International Conference on Audio for Virtual and Augmented Reality and Immersive Games*, Paris, 2026.

Yazhou Li, Lin Wang, and Joshua Reiss. "Binaural Room Impulse Responses Interpolation using Physics-Informed Neural Networks in Three Dimensions." In *the 51st German Annual Conference on Acoustics (DAGA)*, Copenhagen, 2025.

Yazhou Li, Lin Wang, and Joshua Reiss. "Impact of Mismatched Room Acoustic Modeling on Transaural Reproduction with Loudspeaker Arrays." In *the 155th Audio Engineering Society Convention (AES)*, New York, 2023.

Yazhou Li and Yahong Rosa Zheng. "Profiling NVIDIA Jetson Embedded GPU Devices for Autonomous Machines." In *the International Conference on Signal, Image Processing and Embedded Systems*, vol. 10, no. 18, 2020.

Teaching

Teaching Fellow **2025/2-2025/6**

- Delivered hands-on lectures on Figma and React for Graphical User Interfaces (ECS255U) to over 200 students.
- Facilitated laboratory sessions, supported students with practical exercises, and marked coursework with constructive feedback.

Teaching Assistant

- Applied Statistics (IOT764P, ECS764A), Data Mining (IOT607U), QMUL. 2022-2024
- Introduction to Robotic Perception and Computer Vision (ECE 350/45), Accelerated Computing for Machine Learning (DSCI 421), Lehigh University. 2020

Skills

Programming Languages	Python, C, C++, Java, Matlab, Swift, MIPS assembly language
Frameworks & Tools	PyTorch, LaTex, Figma, React, GitHub, Django, Linux, ROS, Docker, TensorFlow

Honors

Outstanding Undergraduate Thesis (top 10%), Beihang University 2021
Outstanding Graduate (top 10%), Beihang University 2021
First Class Scholarship for Excellent Study (top 10%), Beihang University 2017-2018

Involvement

Peer Reviewer **2026**

- IEEE Signal Processing Letters (SPL), IJCNN 2026, ICASSP 2027.

WiMIR Mentor **2026**

- Mentored two early-career researchers in MIR and provided guidance on research development and career planning.

Conference Volunteer **2025/9**

- Assisted with organizing the poster session at the AES International Conference on Artificial Intelligence and Machine Learning for Audio.